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November 15, 1999

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. D'Wana Terry
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: RM 9462

Dear D'Wana:

Last year, the Federal Aviation Administration (FAA) submitted a Petition for Rulemaking suggesting changes in the band 136-137 MHz[1] to accommodate new datalink technology and a new broadcast Flight Information Service (FISB) for general aviation.[2] The FAA proposals, as originally submitted, would have created significant problems for the private sector airspace users. ARINC, ATA, and other members of the aviation industry met with the FAA to permit implementation of new technology and the FAA-sponsored FISB.

As a result of those consultations, ARINC and ATA submitted comments on April 19, 1999, which set forth the substance of the agreement, together with proposed clarification of the Aeronautical Enroute Service rules to make the FAA/industry compromise practicable.[3] On August 3, 1999, the FAA filed additional Comments, which set forth proposed rules that are slightly different from those submitted by ARINC and ATA in April.

The purpose of this letter is to expedite the FCC's rulemaking on this matter by supplementing and correcting some discrepancies in the new FAA proposal and to harmonize the required rule changes. Attachment A, hereto, contains a complete set of revisions to Parts 2 and 87 of the Commission's Rules that will satisfy the conditions of the FAA/industry agreement on

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[1] The first assignable 25 kHz channel is 136.00 MHz; thus, the band is actually 135.9875 - 137.000 MHz. The rules attached take these band limits into account.

[2] FAA Petition for Rulemaking filed November 19, 1998.

[3] ARINC/ATA Comments filed April 19, 1999.

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the use of the band 136-137 MHz, will accommodate the new FISB service, and will promote more efficient use of the VHF aeronautical mobile (R) spectrum.

Section 2.106 of the Rules–Table of Frequency Allocations

The rules submitted by ARINC and ATA in their April Comments do not alter the allocation of the band 136-137 MHz, but will retain the entire band as a non-government band, with permissive use of that band by the FAA. This is the allocation made by the FCC in 1984[4] and confirmed by the FCC with FAA support in 1990.[5] The purpose advanced by the FAA and accepted by the FCC for giving the FAA access to this band was to meet general aviation requirements, not for general ATC purposes.[6] Therefore, the ARINC/ATA Comments recommended only that footnote US244 be modified to add FISB as another example of air traffic control purposes that might be met in the frequencies designated for use by the FAA. As explained in the ARINC/ATA Comments, this limited modification would fully meet the FAA's stated requirements. The FCC's current service rules for the aeronautical enroute service (§ 87.261(a)) and for automatic weather observing stations (§ 87.525) are broad enough to accommodate the FISB service with no additional changes.

The FAA Comments propose to make the band 136-136.4875 MHz a shared government/non-government band in the Table of Frequency Allocations, and to modify US244 to designate specific frequencies for its FISB service with a cutoff date for this service. None of this is necessary, FISB can be provided in either the air traffic control portion of the band as well as the aeronautical operational control portion of the band. As such, frequencies for FISB should not be specified in the footnote. The FAA has decided to make three frequencies available for this service, and ARINC has agreed to provide use of one frequency in the aeronautical enroute service for one of the FISB service providers. Our respective commitments end on December 31, 2004, but that condition will be reflected in both of our individual contracts with the FISB service providers and not in the FCC rules.

ARINC and ATA submit that their original proposal for Section 2.106 of the Rules is consistent with the FAA/industry agreement and supported by prior FCC actions. Using the language in the ARINC/ATA Comments will allow the FAA to use this spectrum for FISB and for other air traffic control purposes.

Section 87.131 of the Rules–Power and Emissions

The FAA proposal is the same as the ARINC/ATA proposal.

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[4] Second Report & Order, FCC Docket 80-739, 49 Fed. Reg. 2358 (1984).

[5] Report & Order, GEN Docket 89-295, 5 FCC Rcd 3954 (1990), *recon.*, 6 FCC Rcd 2291 (1991).

[6] *Id.*, 5 FCC Rcd at 3957, 6 FCC Rcd at 2292.

Section 87.133 of the Rules–Frequency Stability

The FAA proposal is the same as the ARINC/ATA proposal, except that the FAA deletes footnote 10. The FAA is correct in that footnote 10 only applied before January 1, 1997, and the rules in Attachment A have been modified to reflect this change.

Section 87.137 of the Rules–Types of Emission

The FAA proposal is the same as the ARINC/ATA proposal.

Section 87.139 of the Rules–Emission Limitations

The FAA makes no proposal concerning out-of-band emissions from stations authorized for G1D or G7D emissions, but rather suggests that "[p]roposed changes will come about when standards for the operation of the VHF digital transmission are completed in the year 2000."[7] The proposals in the ARINC/ATA Comments are the internationally accepted ICAO Standards and Recommended Practices (SARPs) for G1D emission,[8] and the standards to be adopted for G7D emission can be added when those are completed. The G1D emission will be used by FISB and the new higher speed aeronautical datalink (known as VDL Mode 2) beginning next year. The rulemaking should not be deferred waiting for international standardization of the G7D emission for VDL Mode 3 service. If changes are necessary to accommodate G7D emission, those can be made when SARPs are adopted for VDL Mode 3.

Section 87.131 of the Rules—Frequencies

The Table of Frequencies assignable under Part 87 should be amended to reflect the broader use of the band 136-137 MHz. Proposed revisions of this table are in the Attachment to this letter.

Section 87.187 of the Rules–Frequencies [Aircraft Radios]

The FAA proposes to specify in the listing of frequencies available for aircraft stations that the four identified FISB frequencies are available for FIS, but omits the necessary limitation that aircraft stations must not transmit on these channels. The only purpose for discussing these four frequencies in this section dealing with aircraft stations frequencies is to make clear that the FAA and industry's allocation plans are predicated on the fact that FISB is a ground-based broadcast service and that aircraft stations may not transmit on these frequencies. If aircraft transmissions are permitted, the separation required between co-channel frequency assignments would essentially be doubled, which would result in far less efficient spectrum utilization. For

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[7] FAA Comments at 4.

[8] 3 ICAO Annex 10, ¶¶ 6.2, 6.3 (1997).

this reason, the FAA specified in its Request for Offers (RFO) to potential operators of FISB that FISB must comply with the following criterion:[9]

> A broadcast (one-way uplink) communications infrastructure is assumed to ensure the least cost (most affordable) avionics for users, and to provide the best opportunity for optimal coverage using spectrum available.

For this reason the proposal and the ARINC/ATA Comments for a new Section 87.187(dd) barring airborne transmissions on 136.425, 136.450, 136.475, and 136.500 MHz is appropriate and should be retained and any rules adopted.

Section 87.263 of the Rules–Frequencies [Aeronautical Enroute Service]

Finally, the FAA made no comment on the ARINC/ATA request that the temporary reservation of six frequencies in the Gulf of Mexico Region for helicopter flight following systems made in 1990 be removed for the five of the six channels that were not implemented prior to January 1, 1994, as specified in the Rule.[10] The Commission reserved these frequencies in the Gulf of Mexico Region only to the extent that service was implemented prior January 1, 1994. One frequency was implemented by Chevron (136.750 MHz),[11] but the rest of the frequencies are now available throughout the United States for domestic and international aeronautical enroute communications.

Because the industry has agreed to dedicate (i) one of the aeronautical enroute frequencies in the band 136.4875-137 MHz to FISB and (ii) another frequency to an alternate operational control datalink service provided by SITA, Section 87.263(a) of the Rules should be clarified to remove any ambiguity as to the use of the frequencies 136.775, 136.800, 136.825, 136.850, and 136.875 MHz in the Gulf of Mexico Region. Current industry planning for this service is predicated on the use of these frequencies throughout the nation, and the rapid growth of the aeronautical enroute service requires that these five channels be unambiguously available.

With these changes, the Commission should proceed to issue a Notice of Proposed Rulemaking and move quickly to modify Parts 2 and 87 as set forth in Attachment A hereto. In the meantime, ARINC and the civil aviation community must proceed to implement the VDL

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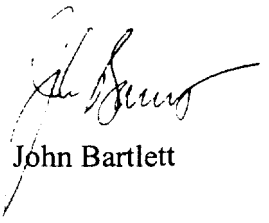
[9] FAA, Request for Offers for the Flight Information Service Data Link (FISDL) Project, Attachment 2, ¶5 Note 3 (April 1999).

[10] *See* 47 C.F.R. § 263(a)(5).

[11] As discussed in the ARINC/ATA Comments, the current reservation should continue for the frequency 136.750 MHz.

Mode 2 emission (G1D), and the FCC rules should be amended to accommodate this important new internationally agreed upon service.

Very truly yours,



John Bartlett

Enclosures: Proposed rules
cc: Magalie Roman Salas
Gerald Markey, FAA
Rob Brantly, FCC

ATTACHMENT A
PROPOSED RULE CHANGES

§ 2.106 Table of Frequency Allocations

INTERNATIONAL TABLE			UNITED STATES TABLE			FCC USE DESIGNATORS	
Region 1 MHz	Region 2 MHz	Region 3 MHz	Band MHz	Governmental Allocation	Non-Government Allocation	Rule part(s)	Special-Use Frequencies
136-137 AERONAUTICAL MOBILE (R) Fixed Mobile except aeronautical mobile (R) 591 594A 595			136-137		AERONAUTICAL MOBILE (R) US244 591	Aviation(87) Satellite Communications (25)	

...

US244 The band 136-137 MHz is allocated in the aeronautical mobile (R) service on a primary basis, and is subject to pertinent international treaties and agreements. The band 136-136.4875 MHz is available on a shared basis to the Federal Aviation Administration for air traffic control purposes, such as automatic weather observation services (AWOS), automatic terminal information services (ATIS), flight information services-broadcast (FIS-B), and airport tower communications. Stations licensed prior to January 2, 1990, using the 136-137 MHz band for space operation (space-to-Earth) meteorological - satellite service (space-to-Earth) and space research service (space-to-Earth) may continue to use this band on a secondary basis to aeronautical mobile (R) service. No new assignments will be made to stations in the above space services.

§ 87.131 Power and emissions

Class of Station	Frequency Band/ Frequency	Authorized emission(s)	Maximum Power[1]
. . . Aeronautical enroute and aeronautical fixed	... VHF	A3E, A9W, G1D	200 watts[2]
... Airport control tower	VHF	A3E, G1D, G7D	50 watts
... Aircraft (communications)	... VHF	A3E, A9W, G1D, G7D	55 watts

§ 87.133 Frequency Stability

Frequency band ... and categories of stations	Tolerance[1]	Tolerance[2]
...		
(5) Band—100 to 137 MHz	...	...
Aeronautical Stations	50[4]	20[12]
. . .	. . .	. . .
Aircraft and other mobile stations in the Aviation Services.	50[5]	30[13]
. . .		

[12] For emissions G1D and G7D, the tolerance is 2 parts per 10^6.

[13] For emissions G1D and G7D, the tolerance is 5 parts per 10^6.

. . .

§ 87.137 Types of Emission

Class of emission	Emission designator	Authorized bandwidth (kilohertz)		
		Below 50 MHz	Above 50 MHz	Freq. Dev.
...				
G1D	14K0G1D		25	
G7D	14K0G7D		25	

§ 87.139 Emission Limitations

...

(j) For VHF aeronautical stations and aircraft stations operating with G1D or G7D emissions:

(1) The amount of power measured across either first adjacent 25 kHz channel shall not exceed 0 dBm.

(2) The amount of power measured across either second adjacent channel share less than -25 dBm and the power measured in any other adjacent 25 kHz channels shall monotonically decrease at a rate of at least 5 dB per octave to a maximum value of -52 dBm.

(3) The amount of power measured over a 16 kHz channel bandwidth centered on the first adjacent 25 kHz channel shall not exceed -20 dBm.

§ 87.173 Frequencies

Frequency or Frequency Band	Subpart	Class of Station	Remarks
...			
128.8125-132.0125 MHz	I	MA, FAE	Domestic VHF; 25 kHz channel spacing
132.0125-135.9875 MHz	O, S	MA, FAC, FAW	Air traffic control operations; 25 kHz channel spacing
135.9875-136.4125 MHz	O, S	MA, FAC, FAW	Air traffic control operations; 25 kHz channel spacing
136.425	O, S	FAC, FAW	Air traffic control operations
136.450	O, S	FAC, FAW	Air traffic control operations
136.475	O, S	FAC, FAW	Air traffic control operations
136.500	I	FAE	Domestic VHF
136.5125-136.8825	I	MA, FAE	Domestic VHF; 25 kHz channel spacing
136.900	I	MA, FAE	Domestic and International VHF
136.925	I	MA, FAE	Domestic and international VHF
136.950	I	MA, FAE	Domestic and international VHF
136.975	I	MA, FAE	Domestic and international VHF
...			

§ 87.187 Frequencies

. . .

(dd) The frequencies 136.425, 136.450, 136.475, and 136.500 MHz are designated for ground-based broadcast services and may not be used by aircraft for transmission.

§ 87.263 Frequencies

(a) *Domestic VHF service.* (1) The frequencies in the 128.8125-132.125 MHz and 136.4875 -137.00 MHz bands are available to service domestic routes, except that 136.750 is available to aeronautical enroute stations located at least 288 kilometers (180 miles) from the Gulf of Mexico shore line (outside the Gulf of Mexico Region). Frequency assignments are based on 25 kHz spacing. Use of these frequencies must

...

(5) The frequency 136.750 MHz is available in the Gulf of Mexico Region to serve domestic routes over the Gulf of Mexico and adjacent coastal areas. Assignment of this frequency in the Gulf of Mexico Region shall be to licensees first licensed on this frequency in the Gulf of Mexico Region prior to January 1, 1994, their successors and assigns, and is not subject to the conditions in § 87.261(c) and paragraph (a)(2) of this section. For the purpose of this paragraph, the Gulf of Mexico Region is defined as an area bounded on the east, north, and west by a line 288 km (180 miles) from the Gulf of Mexico shore line. Inland stations must be located within forty-eight kilometers (30 miles) of the Gulf of Mexico shore line.

...